Fuel Oil # 2 Spill
Health and Safety Considerations

Below are health and safety considerations for fuel oil #2 spill:

Toxicity
Fuel oil #2 is a mixture of volatile hydrocarbons. While exposure to low concentrations (several parts per million) of fuel oil #2 vapors is not a hazard to most people, inhalation of high concentration of fuel oil #2 vapors may cause dizziness, nausea, vomiting and eye irritation. Prolonged skin exposure may cause dermatitis, especially to sensitive individuals. Aspiration (intake of fuel oil #2 liquid into the lungs) is difficult to treat and may cause severe pneumonitis and pulmonary edema.

Recommendations
Response Personnel
- Conduct air sampling and provide respiratory equipment if needed
- Provide protective clothing, gloves, and eye protection to all response personnel coming in contact with fuel oil #2
- Educate workers on the risks they face and appropriate use of personal protective equipment (PPE)
- Monitor the working environment to make sure that safe work practices are being carried out. Hazards such as hypothermia, work near/on water, and other safety related problems may be more of a threat than chemical exposure.

General Public
- Monitor possible exposure to the general public
- Provide a timely public advisory, and if needed advise of necessary steps to take (e.g., shelter in place)
- Provide a contact point for concerned citizens to call

Flammability
Fuel oil #2 is a combustible liquid, with a flash point between 110 and 190 ˚F (USCG). If ignited, a fuel oil #2 layer thicker than 3 mm on the water may burn. In addition, spilled fuel accumulated on the beach may burn as well, if ignited. Fire potential is especially serious in confined spaces.

Recommendations:
- Measures should be taken to prevent accidental ignition of the spilled fuel
- Entry into confined spaces should always follow OSHA and USCG safety requirements, which include air sampling, ventilation, protective equipment, and standby rescue.

Odor Vs. Threat
The odor threshold of fuel oil #2 is around 1 part per million (ppm). While an average person would detect fuel oil #2 vapors at this concentration, some

people could actually smell it at much lower levels. At air concentration of 1 ppm fuel oil #2 vapors are rarely a hazard to the average person. However, sensitive individuals may be affected by the vapors even at this low levels, while others may perceive the odor as offensive and assume that they are overexposed.

Recommendations: Provide timely information to both the general public and to health and emergency authorities. This step is crucial. Past experience has shown that the sooner the public and local authorities are informed of what has spilled, how much, what to expect, and what are the possible hazards, the lower the level of anxiety is and the easier it is to provide additional information later.

Sampling for fuel oil #2

Since fuel oil #2 is a mixture of hydrocarbons, precise sampling for it is difficult. Nevertheless, photoionization detectors, flame ionization detectors, calorimetric tubes, and other instruments may provide an approximate concentration of fuel oil #2 vapors in air. Use sampling instrumentation with the limitations and shortcomings of these instruments in mind.